

Claims

- [1] A method for separation of construction waste, in which construction waste crushed to a predetermined size is added to a liquid in a precipitation tank and separated into components in the tank according to specific gravity, in which the liquid has a reference specific gravity lower than that of a component to be recovered but higher than that of the remaining components, such that only the component to be recovered is separated by precipitation to the bottom of the precipitation tank.
- [2] The method of Claim 1, wherein the liquid is obtained by diluting a heavy reagent with a diluent to attain a reference specific gravity.
- [3] The method of Claim 2, wherein the reagent is tetrabromoethane and the diluent is alcohol.
- [4] The method of Claim 1, wherein the liquid is a suspension obtained by diluting a heavy medium in water to have a reference specific gravity.
- [5] The method of Claim 4, wherein the medium is selected from the group consisting of magnetite powder, ferrosilicon powder, hematite powder, galena powder and a mixture thereof.
- [6] The method of any one of Claims 1 to 5, wherein the component to be recovered is recyclable aggregate, and the remaining components are impurities having a specific gravity lower than that of the aggregate.
- [7] The method of Claim 6, wherein the specific gravity of each component of the construction waste, which is used for determining the reference specific gravity of the liquid, is based on surface-dry density measured in a state where each of the components contained a sufficient amount of water held therein.
- [8] The method of Claim 7, wherein the reference specific gravity of the liquid is in a range of 2.35-2.5.
- [9] The method of Claim 6, wherein each component of the construction waste, which is added to the liquid in the precipitation tank, has been crushed to a size of 10-50 mm.
- [10] The method of Claim 6, which further comprises a step of stirring the precipitation tank such that the liquid is maintained at a uniform specific gravity.
- [11] The method of Claim 4 or 5, which further comprises the steps of: measuring the specific gravity of the liquid in the precipitation tank; and adding the medium into the precipitation tank if the measured specific gravity is lower than the reference specific gravity, or adding water into the tank if the measured specific gravity is higher than the reference specific gravity.
- [12] The method of Claim 4 or 5, which further comprises the steps of:

stirring the cylindrical precipitation tank by rotation using a driving unit such that the medium dispersed in the tank is maintained as a stable suspension; introducing the construction waste crushed to a predetermined size into the precipitation tank;

recovering the component precipitated to the bottom of the precipitation by lifting up the component by means of rotating plates attached to the inner wall of the precipitation tank and allowing the lifted component to fall down into a recovering unit placed at a central portion; and

gathering the remaining components floating on the suspension at the central portion by pushing with guide plates and discharging the gathered components from the precipitation tank.